



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/688,574 | 10/17/2000 | Michael Seul | 464.1006 CON6 | 3542 |

7590 09/17/2004
Eric P. Mirabel
Bioarray Solutions Ltd., Suite 100
35 Technology Drive
Warren, NJ 07059

EXAMINER

MAYEKAR, KISHOR

ART UNIT PAPER NUMBER

1753

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/688,574

Applicant(s)

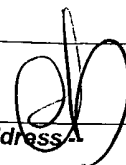
SEUL, MICHAEL

Examiner

Kishor Mayekar

Art Unit

1753



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address.

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-40 is/are pending in the application.
- 4a) Of the above claim(s) 26-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date see 6) for 6 IDS.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: 10/00, 9/01, 2/02, 8/02, 8/03.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of invention of Group I, claims 10-25 in the reply filed on 30 June 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The information disclosure statement (with only one reference cited) filed 29 December 2003 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

3. Claims 21, 23 and 24 are objected to because of the following informalities:

- in claim 21, the term "electrode" should be in plural;

- in claim 23, either the claim is incomplete or is missing of a period; and
- in claim 24, the presence of an extra period.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the light-sensitive electrode being a silicon electrode, does not reasonably provide enablement for the light-sensitive electrode being an ITO electrode. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11, 12, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, the phrase "a planar light-sensitive electrode" is confusing as whether it is the same electrode recited in claim 10 or another. And the further step of illuminating is confusing because claim 10 already recite the illuminating step.

In claim 12, the same as applied to claim 11 to the phrase " a planar electrode" and the limitation of the surface and interior.

In claim 19, the same is applied to claim 11.

In claim 20, the phrase "the second electrode ... a planar electrode" is redundant.

Claim Rejections - 35 USC § 102 and § 103

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 10, 12, 13, 16-18, 20, 22, 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over MITCHELL et al. (5,128,006) in light of Handbook of Chemistry and Physics (64th edition, 1983-12984, pages B-196 and E-363). The reference's invention is directed to the electrophoretically depositing diamond particles on semiconductor substrate. The reference discloses in sole Figure the steps of providing and generating as claimed. The reference further that the electrophoretically depositing of a patterned layer on a silicon substrate, which is one of the electrodes (see claim 1) and the layer is in the order of less than or equal to one monolayer (col. 2, lines 66-68). Since one of the electrodes is a silicon electrode,

the silicon electrode inherently possesses the property of a light-sensitive electrode as claimed. According to Handbook of Chemistry and Physics, the refractive index for diamond is about 2.4 and for water is about 1.3.

11. Claim 25 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitchell '006. The reference is as applied above. If there exist any difference, since the claim is drafted in a "product-by-process" format, how the claim product differs from the article disclosed in the applied reference(s) is not apparent. It is well settled that the determination of the patentability of a "product-by-process" claim is based on the product itself, and the product is unpatentable if it appears to be the same as, or slightly different from the prior art products. *In re Brown* 173 USPQ; *In re Thorpe* 227 USPQ 964.

12. Claims 11, 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over MITCHELL '006. The difference between the reference and the above claims is the recited step of illuminating and the use of ITO material for the second electrode.

As to the former, since the reference does not disclose the operation in the dark, therefore the operation is under light, the reference's teachings appears to lead one of ordinary skill in the art at the time the invention was made towards the recited step of illumination, absence of evidence to the contrary.

As to the latter, since the reference discloses other materials for the workpiece electrode, the selection of any of known equivalent materials would have been within the level of ordinary skill in the art.

13. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over MITCHELL '006 in view of Applicant admission. The difference between the reference as applied above and the instant claims is the use of AC to generate electric field as claimed in claim 21 or the specific particles as claimed in claim 24. Applicant discloses in the last paragraph of page 19, the first full paragraph of page 20 and in page 3 of the specification the use of DC or AC electric fields for the electrophoretic deposition of particles and the electrophoretic deposition of particles are known. The subject matter as whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as admitted by Applicant because the selection of DC

and/or DC electric fields for the electrophoretic deposition and the type of particles to be electrophoretically deposited would have been within the level of ordinary skill in the art.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 10-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,251,691 in view of MITCHELL '006. Although the conflicting claims are not identical, they are not patentably distinct from each other because the

omission of the first electrode and/or the second electrode being a planar light-sensitive electrode in the patent claims.

As to the former, it is known that an electric field is generated between two electrodes as seen in MITCHELL (see claim 1). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the patent claims' teachings as shown by MITCHELL because "the use of conventional materials to perform their known functions in a conventional process is obvious". In re Raner 134 USPQ 343.

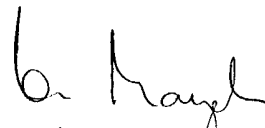
As to the latter, since the patent claims recite the step of illuminating in conjunction with the step of generating an electric field to control the movement of the particles, it appears that the patent claims' electrode would possess the property of light-sensitive electrode as claimed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kishor Mayekar
Primary Examiner
Art Unit 1753